

## 5.10 Hazardous Materials and Hazards

The hazardous materials information provided in this section is summarized from the hazardous materials technical reports prepared for the project site identified below. These documents are provided as Appendices I1 through I3 on the attached CD of Technical Appendices found on the back cover of this EIR.

- Phase I Environmental Site Assessment Dos Colinas – Assessor's Parcel Numbers 209-060-68 and -70 (SCS Engineers, December 31, 2008) (EIR Appendix I1)
- Phase I Environmental Site Assessment Dos Colinas – Assessor's Parcel Number 209-060-71 (Rincon Consultants, Inc., February 10, 2010) (EIR Appendix I2)
- Phase II Environmental Site Assessment Dos Colinas Property (Rincon Consultants, Inc., February 22, 2010) (EIR Appendix I3)

Figure 5.10-1 depicts an overview of hazardous materials assessments prepared for the Dos Colinas project.

### 5.10.1 Existing Conditions

A majority of the project site is vacant and historically has been utilized for agricultural operations and equestrian related uses. Phase I Environmental Site Assessments (Phase I ESA) were prepared for the project site to determine the previous uses of the project site and to assess the potential for occurrence of hazardous materials. The Phase I ESAs included:

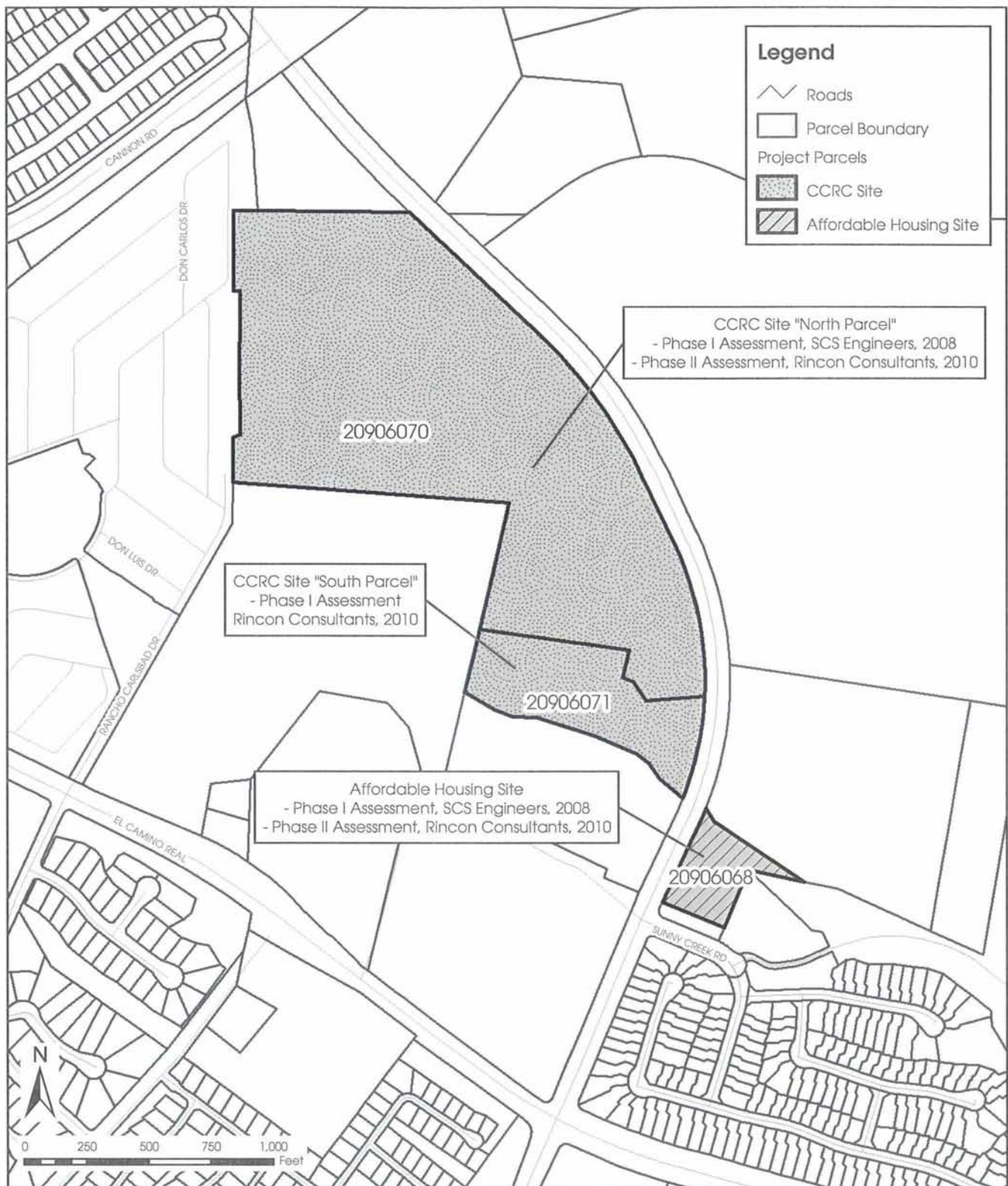
- Site Reconnaissance, Site Research, Interviews, and User Requirements
- Topography, Geology, Soils, Hydrogeology, and Water Quality Survey
- Site Vicinity Reconnaissance and Off-Site Source Survey
- Historical Site and Site Vicinity Land Use Review
- Identification of Data Gaps
- Data Evaluation, Figure Preparation, and Assessment Report Preparation

#### **CCRC Site**

##### ***North Parcel of CCRC Site***

The northern parcel (APN 209-060-70) of the CCRC site, which includes the proposed RV storage and garden area for Rancho Carlsbad Estates, was previously utilized for agricultural use. This parcel currently consists of vacant land. As part of the Phase I ESA site conducted by SCS Engineers, plastic piping, construction debris, landscape debris, and an exposed iron pipe were observed on this portion of the CCRC site.

Subsequently, a Phase II Environmental Site Assessment (Phase II ESA) was prepared which addressed this parcel (APN 209-060-70) of the CCRC site and the affordable housing site (discussed below) to assess four recognized environmental conditions identified in the Phase I ESAs including: 1) former agricultural use of



SOURCE: SanGIS, 2010; BRG Consulting, Inc., 2010

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Dos Colinas EIR

## Overview of Hazardous Materials Assessments

FIGURE  
5.10-1

the property; 2) unknown origin of on-site fill material; 3) current and former use of portions of the site for boarding horses; and, 4) the presence of an iron pipe protruding from the ground.

The CCRC site has been historically used for agricultural activity, possibly even before 1928. Agricultural activity during that time potentially utilized organochlorine pesticides such as DDT, chlordane, and metal-based pesticides. These pesticides are known to have the potential to remain detectable in the subsurface soil, but it is likely to be considered *de minimis*<sup>1</sup>. As a precautionary measure to future senior citizen residents, construction workers, and others possibly on the project site, limited soil sampling (i.e., Phase II ESA) was recommended in the Phase I ESA.

The Phase II ESA included soil sampling to assess the possible presence of pesticides. No concentrations of organochlorine pesticides were reported and concentrations of arsenic fall within the range of normal background concentrations of arsenic found in California's soils. Therefore, no further assessment is required.

Rincon Consultants excavated the soil around the exposed metal pipe and the pipe was removed from the ground. The pipe did not show evidence of being attached to another pipe. No residual odors or liquids were noted and the surrounding soil had no visual evidence of staining. The metal pipe does not appear to be an environmental concern and no further assessment is required.

#### **South Parcel of CCRC Site**

The southern parcel (APN 209-060-71) of the CCRC site (i.e. proposed open space parcel) is currently developed as a horse boarding and training facility. A Phase I ESA was prepared to assess the environmental conditions of the property and to identify the possible presence of recognized environmental conditions. The Phase I ESA included:

- Site reconnaissance
- Observation adjacent or nearby properties from public thoroughfares in attempt to see if such properties are likely to use, store, generate, or dispose of hazardous materials
- Obtain and review an environmental records database search from EDR
- Review current U.S. Geological Survey topographic maps
- Review historic aerial photographs and topographic maps
- Review California Division of Oil and Gas records
- Interview questionnaire to property owner and site interview with owner

According to a historic records review, this portion of the CCRC site was vacant from at least 1901 through 1953 and then used as an equestrian facility since at least 1974. As of 2009, the site has been unoccupied.

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<sup>1</sup> *De minimis condition*. An environmental condition that does not generally present a material risk of harm to the public health or the environment that generally would not be subject to an enforcement action if brought to the attention of appropriate governmental agencies.

Structures on the site include a ranch house, stable, arena, corrals, a small concrete pad that served as a foundation for a small structure, and a pole mounted transformer.

**Affordable Housing Site**

The affordable housing site currently consists of vacant land. Portions of the site were previously utilized for agricultural use and animal husbandry (equine) activities. The affordable housing site was observed to contain a truck-trailer, wood debris, and piles of fill material at the time of the site reconnaissance.

**5.10.1.1 Hazardous Materials****A. North Parcel of CCRC site (APN 209-060-70)****Hazardous Materials/Petroleum Products**

No obvious indications of the use or storage of hazardous materials or petroleum products were reported in the Phase I ESA.

**Hazardous Wastes**

There were no indications of the generation of hazardous wastes reported in the Phase I ESA.

**Indications of Releases of Hazardous Materials/Wastes or Petroleum Products**

No indications of releases of hazardous materials/wastes or petroleum products were reported in the Phase I ESA.

**County of San Diego Department of Health**

SCS requested records for the CCRC site at the County of San Diego Department of Environmental Health (DEH). The DEH reported that there are records for the site in connection with a Voluntary Assistance Program (VAP) case to assess the presence of pesticides in the shallow soil in connection with the historical land use for agricultural purposes. However, based on a review of the DEH file, the DEH issued the VAP case a status of "case closed" on December 31, 2002.

**Other Hazardous Materials**

Also addressed in the Phase I ESA (Historical Site Land Use), but determined not to be significant related to the proposed project, are organochlorine pesticides.

*Pesticides.* A review of historical site land uses revealed that agricultural activity took place at the northern parcel of the CCRC site and its vicinity, possibly prior to 1928. The agricultural activity may have taken place during a time when organochlorine pesticides such as dichlorodiphenyl trichloroethane (DDT), chlordane, and metal-based pesticides, such as copper and arsenic, were in wide general use for pest control (SCS Engineers, 2008). It is likely that trace concentrations of organochlorine or metallic pesticides are present in the subsurface soil of the site, but concentrations of organochlorine pesticides tend to be low, unless there was pesticide mixing, storage or a disposal area present. There have been no reported areas known to have existed either onsite or the site vicinity.

The Phase II ESA for the northern parcel of the CCRC site consisted of soil sampling to assess if pesticide concentrations were within normal background ranges for California soils. A total of 30 borings were advanced at the locations likely to be former agricultural areas. Twenty soil samples were collected at 0.5 and 2 feet below grade and analyzed for arsenic, lead, and organochlorine pesticides. The remaining ten soil samples were collected at 3 and 4 feet below grade and put on hold at the laboratory pending results of the laboratory analysis conducted on the shallower samples (Rincon Consultants, 2010). There was no soil discoloration or odors noted in the twenty soil samples. In addition, no concentrations of organochlorine pesticides were detected. Arsenic concentrations were found to range from 1.61 to 5.81 milligrams per kilogram (mg/kg). The detected concentration of arsenic in soil samples collected from the former agricultural area of the site fall within the range of normal background concentrations found in California soils. Based on the review of the laboratory results of the shallower samples, no additional analysis of the deeper samples was conducted. Therefore, no further assessment or remediation is required.

Table 5.10-1 below summarizes the potential hazardous materials found at the northern parcel of the CCRC Site.

**TABLE 5.10-1**  
**Potential Hazardous Materials at the Northern Parcel of the CCRC Site**

<b>Hazardous Materials</b>	
Hazardous Materials/Petroleum Products	No obvious indications.
Hazardous Wastes	No indications.
Indications of Releases of Hazardous Materials/Wastes or Petroleum Products	No indications.
Pesticides	No concentrations of organochlorine pesticides were detected in soil samples. No further assessment is required.

Source: BRG Consulting, Inc., 2010.

## **B. South Parcel of CCRC Site (APN 209-060-71)**

### **Storage Tanks**

No observation of above-ground tanks or evidence of underground storage tanks was reported in the Phase I ESA.

### **Trash and Debris**

A pile of debris was documented and included sandbags, paper, metal, and other miscellaneous debris. These items do not pose an environmental concern to the subject property.

### **Fill**

No observation of fill materials was reported on this parcel.

**Drums**

No observation of drums was reported on this parcel.

**Hazardous Substances and Petroleum Products**

No hazardous substances or petroleum products were identified on this parcel.

According to the Phase I ESA conducted by Rincon Consultants, the southern parcel of the CCRC site is not listed in any of the databases (Envirostor, San Diego County Hazardous Materials Division managed by the San Diego DEH, San Diego Site Assessment and Mitigation Program (SAM), School Property Evaluation Program (SCH), and SLIC) that generate, store, treat, or dispose of hazardous materials or sites for which a release or incident has occurred.

**Unidentified Substance Containers**

No unidentified substance containers or unidentified containers that might contain hazardous substances were reported in the Phase I ESA.

**Odors**

No strong, pungent, or noxious odors were reported in the Phase I ESA.

**Pools of Liquid**

During the Phase I ESA site reconnaissance, a pool of standing water caused by a leaky Schedule 40 PVC Ball Valve was identified. The source of the water appeared to be domestic water. Other than the leaking valve, no other pools of liquid or standing surface water was identified. In addition, sumps containing liquids likely to be hazardous substances or petroleum products were not observed (Rincon Consultants, 2010).

**Indications of Polychlorinated Biphenyls (PCBs)**

Two pole-mounted transformers were observed on this parcel. There was no indication of a release in the vicinity of the transformers or placards indicating the presence of PCBs on the transformers.

**Other Conditions of Concern**

*Organic Waste.* In the past, horse manure has been stockpiled on this parcel. However, the majority of the horse manure has been removed and disposed off site.

*Septic Systems/Effluent Disposal System.* A septic system was installed and used to treat the wastewater from the ranch house. The exact location is currently unknown.

*Asbestos and Lead Based Paint Materials.* The on-site structures are up to 47 years old and may contain asbestos and lead based materials.

Table 5.10-2 summarizes the potential hazardous materials found at the southern parcel of the CCRC site.

**TABLE 5.10-2**  
**Potential Hazardous Materials at the Southern Parcel of the CCRC Site**

<b>Potential Hazardous Materials</b>	
Storage Tanks	No observation.
Trash and Debris	A pile of debris was documented and included sandbags, paper, metal, and other miscellaneous debris. These items do not pose an environmental concern to the subject property.
Fill	No observation.
Drums	No observation.
Hazardous Materials/Petroleum Products	No hazardous substances or petroleum products were identified on this parcel.
Unidentified Substance Containers	No unidentified substance containers or unidentified containers that might contain hazardous substances were reported in the Phase I ESA.
Odors	No strong, pungent, or noxious odors were reported in the Phase I ESA.
Pools of Liquid	During the Phase I ESA site reconnaissance, a pool of standing water caused by a leaky Schedule 40 PVC Ball Valve was identified. The source of the water appeared to be domestic water. Other than the leaking valve, no other pools of liquid or standing surface water was identified. In addition, sumps containing liquids likely to be hazardous substances or petroleum products were not observed.
Polychlorinated Biphenyls	Two pole-mounted transformers were observed on this parcel. No indication of a release in the vicinity of the transformers or placards indicating the presence of PCBs on the transformers.
Organic Waste	In the past, horse manure has been stockpiled on this parcel. However, the majority of the horse manure has been removed and disposed off site.
Septic System	A septic system was installed and used to treat the wastewater from the ranch house. The exact location is currently unknown.
Asbestos/Lead Based Paint	The on-site structures are up to 50 years old and may contain asbestos and lead based materials.

Source: BRG Consulting, Inc., 2010.

**C. Affordable Housing Site*****Hazardous Materials/Petroleum Products***

No obvious indications of the use or storage of hazardous materials or petroleum products were reported in the Phase I ESA.

***Hazardous Wastes***

No indications of the generation of hazardous wastes were reported in the Phase I ESA.

***Indications of Releases of Hazardous Materials/ Wastes or Petroleum Products***

No indications of releases of hazardous materials/wastes or petroleum products were reported in the Phase I ESA.

**County of San Diego Department of Health**

SCS requested records for the affordable housing site at the County of San Diego Department of Environmental Health (DEH). The DEH reported that there are records for the site in connection with a Voluntary Assistance Program (VAP) case to assess the presence of pesticides in the shallow soil in connection with the historical land use for agricultural purposes. However, based on a review of the DEH file, the DEH issued the VAP case a status of "case closed" on December 31, 2002.

***Other Hazardous Materials***

Also addressed in the Phase I ESA (Historical Site Land Use), but determined not to be significant related to the proposed project are organochlorine pesticides, methane gas, and fill materials.

***Pesticides.*** Like the northern parcel of the CCRC site, the affordable housing site was also used for agricultural activities. It is likely that trace concentrations of organochlorine or metallic pesticides are present in the subsurface soil of the site, but concentrations of organochlorine pesticides tend to be low, unless there was pesticide mixing, storage, or a disposal area present. There have been no reported areas known to have existed either onsite or the site vicinity.

Soil samples taken at the affordable housing site did not contain concentrations of organochlorine pesticides. Arsenic concentrations were detected, but do not pose an impact since the concentrations are within normal background ranges for arsenic in California soils.

***Methane gas.*** It has been reported that equine activity took place at the affordable housing site for over 35 years. Large quantities of horse manure may have typically been present where horses are present. The decomposition of such organic waste could result in the generation and accumulation of significant quantities of methane gas (SCS Engineers, 2008).

***Fill Materials.*** Piles of fill material were observed adjacent to Agua Hedionda Creek on the affordable housing site. The history of origin of the fill material is unknown. SCS Engineers was not able to determine if



the fill material is impacted with constituents of concern (CoC), such as petroleum products, volatile organic compounds, and pesticides.

A Phase II ESA was prepared to assess the potential impact of pesticides, unknown on-site fill material, and methane gas at the affordable housing site.

Three soil samples were collected from the soil stockpile and analyzed for the possible presence of contaminants. No concentrations of total extractable petroleum hydrocarbons (TEPH) C6 to C22, benzene, toluene, ethylbenzene, total xylenes (BTEX), CAM 17 metals and organochlorine pesticides were detected. A concentration of 21 mg/kg of TEPH C22 to C36 were detected, but fall within natural concentrations of metals in California soils.

Methane gas sampling was conducted at the affordable housing site to assess the potential impact of methane gas generation and accumulation caused by decomposition of organic waste (horse manure). Twelve soil vapor samples (methane) were collected from six borings at 5 and 10 feet below grade. Eleven soil vapor samples had no detected methane concentrations above the laboratory detection limit. One sample had a methane concentration of 26 parts per million by volume (ppmv). The lower explosive limit (LEL) and upper explosive limit (UEL) of methane gas is 5,000 ppmv and 15,000 ppmv. Therefore, the 26 ppmv methane concentration does not warrant further assessment (Rincon Consultants, 2010).

Table 5.10-3 summarizes the potential hazardous materials found at the affordable housing site.

**TABLE 5.10-3**  
**Potential Hazardous Materials at the Affordable Housing Site**

<b>Potential Hazardous Materials</b>	
Hazardous Materials/Petroleum Products	No obvious indication.
Hazardous Wastes	No indications.
Indications of Releases of Hazardous Materials/ Wastes or Petroleum Products	No indications.
Pesticides	Soil samples taken did not contain concentrations of organochlorine pesticides.
Fill Materials	No concentrations above thresholds of constituents of concern (CoCs), such as petroleum products, volatile organic compounds, and pesticides.
Methane	Vapor samples below thresholds. No further assessment required.

Source: BRG Consulting, Inc., 2010.

### 5.10.1.2 McClellan-Palomar Airport Land Use Compatibility Plan

The McClellan-Palomar Airport is located approximately 2.5 miles to the southeast of the project site. As depicted in Figure 5.10-2, the entire affordable housing site and a small southern portion of the CCRC site are within Zone 6- Traffic Pattern Zone as identified in the Airport Land Use Compatibility Plan (ALUCP). Zone 6 contains the aircraft traffic pattern. Relative to the other zones, the risks in Zone 6 are much lower, but are still greater than in locations more distant from the airport. As described in the ALUCP, Zone 6 land uses are compatible and no special land use restrictions as they relate to airport safety are applicable to the project site. The project site is not located within the airport's Runway Protection Zone or approach/departure zone as designated in the ALUCP.

### 5.10.1.3 Emergency Plans

The City of Carlsbad has adopted the City of Carlsbad Emergency Plan, which addresses the City's planned response to extraordinary emergency situations. The City's plan identifies certain open space areas and public buildings to serve as emergency shelters when residents must be relocated. The proposed project site is not designated as an emergency shelter area.

The Emergency Plan also identifies primary road arterials to move people in the event of an emergency. These arterials are: El Camino Real, La Costa Avenue, Rancho Santa Fe Road, and Carlsbad Village Drive.

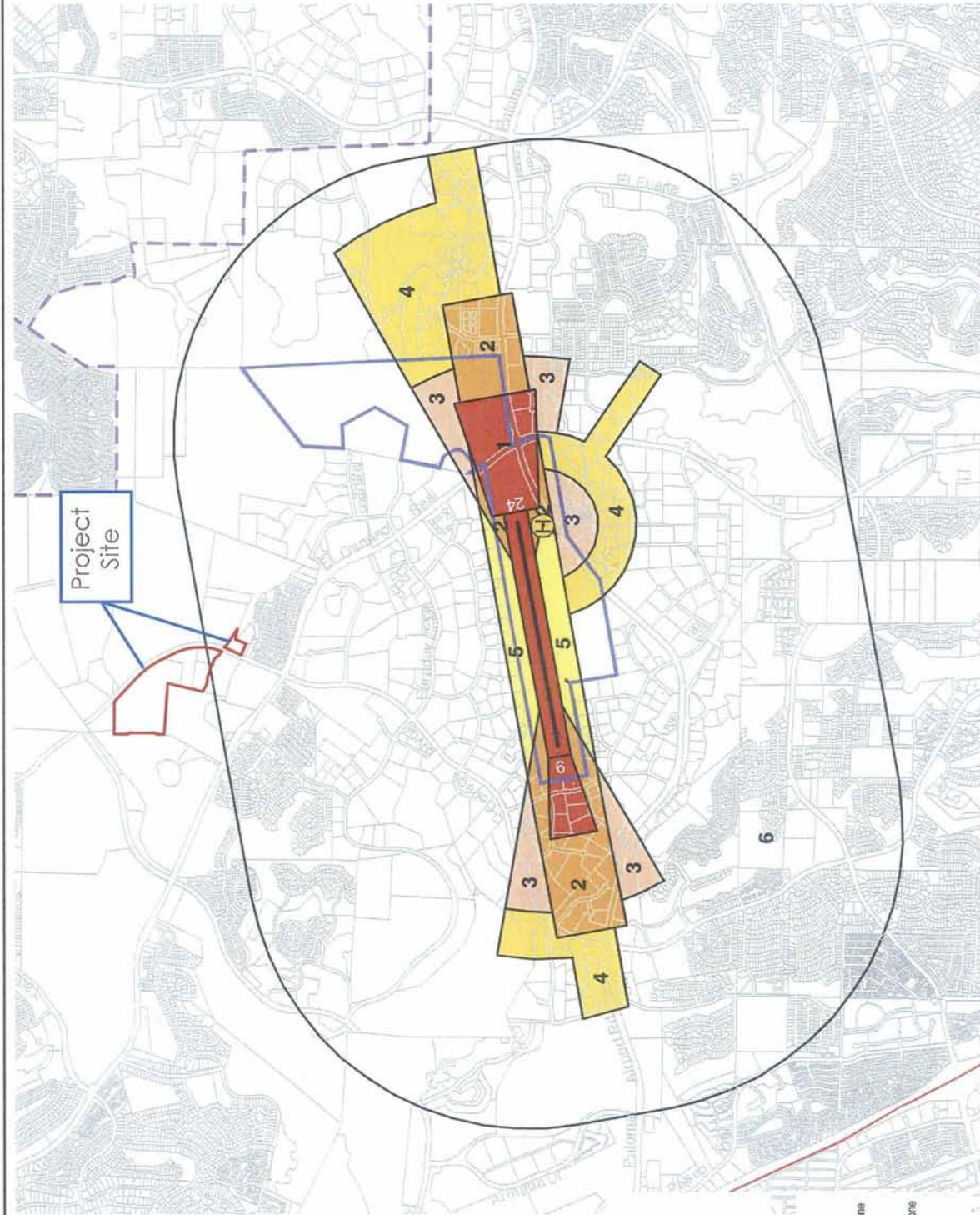
### 5.10.1.4 Fire Hazard

The project site currently consists of vacant, undeveloped land with native and non-native vegetation. The existing naturally vegetated areas of the project site represent a potential wildland fire hazard. The proposed open space parcels on the CCRC site will remain a potential wildland fire hazard once the project site is developed. Existing land uses near the site include the Rancho Carlsbad Estates senior community to the west and the Terraces at Sunny Creek multi-family and single-family developments to the south. Cantarini Ranch and Holly Springs, two-single family developments reviewed pursuant to the Calavera Hills Master Plan Phase II, Bridge and Thoroughfare District No. 4 & Detention Basins (EIR 98-02, SCH No. 99111082) have been approved to the east of the Dos Colinas project site.

## 5.10.2 Thresholds for Determining Significance

*Appendix G of the CEQA Guidelines is used to provide direction for determination of a significant hazardous materials and hazards impact. For the purpose of this EIR, a significant impact would occur if the proposed project would:*

- *Routinely transport, use or dispose of hazardous materials;*
- *Release hazardous materials into the environment;*
- *Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;*
- *Be included on a list of hazardous materials sites;*



- LEGEND**
- Airport Property Boundary
  - Parcel Line
  - Highways
  - - - Municipal Boundary
  - ⊕ Existing Helipad/Helipad
  - ▭ Project Boundary
  - Safety Zones**
  - Zone 1 - Runway Protection Zone
  - Zone 2 - Inner Approach/Departure Zone
  - Zone 3 - Inner Turning Zone
  - Zone 4 - Outer Approach/Departure Zone
  - Zone 5 - Sidelane Zone
  - Zone 6 - Traffic Pattern Zone

SOURCE: Ricondo & Associates, 2010



Dos Colinas EIR

## McClellan-Palomar Airport Safety Zones

FIGURE

5.10-2

4/29/10

- *Be located within an airport land use plan or within two miles of a public airport or public use airport;*
- *Be located within a vicinity of a private airstrip that would result in a safety hazard for people residing or working in the project area;*
- *Impair implementation of, or physically interfere with an adopted emergency response plan or emergency evacuation plan; and,*
- *Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.*

### 5.10.3 Environmental Impact

#### 5.10.3.1 Hazardous Materials

##### **A. Existing Hazardous Materials Onsite**

There currently are no observed petroleum products on the project site. The project site has been historically used as agricultural land and may therefore contain organochlorine pesticides, methane gas associated with organic waste decomposition from horses, and fill material.

##### **North Parcel of CCRC Site**

The project proposes the development of a 309-unit Continuing Care Retirement Community. The Phase II ESA conducted soil sampling to assess the possible presence of pesticides. No concentrations of organochlorine pesticides were reported and concentrations of arsenic fall within the range of normal background concentrations. Therefore, no further assessment is required and no impact would occur.

The exposed metal pipe located near the western boundary was not attached to another pipe. No residual odors or liquids were noted and the surrounding soil had no visual evidence of staining or other indicators of an environmental concern. Therefore, no significant impact would occur.

##### **South Parcel of CCRC Site**

The southern parcel of the CCRC site was once stockpiled with horse manure. The majority of horse manure has been removed and disposed off site. If residual horse manure is present onsite, it does not pose an environmental concern and represents a *de minimis* condition. However, if horse manure is encountered during grading operations, it will need to be disposed of separately from the soils. This is a significant impact. Implementation of Mitigation Measure HM-1 would reduce the potential impact to a level less than significant.

The structures on the site are up to 50 years old and may contain asbestos and lead based paint materials. This is a significant impact. If any building is going to be demolished or remodeled, an asbestos containing

building materials and lead based paint survey shall be performed prior to the demolition or remodeling of the on-site structures. Implementation of Mitigation Measure HM-2 would reduce the potential impact to a level less than significant.

A septic system was previously installed and used to treat wastewater from the ranch house. Its exact location is unknown. The system will need to be removed and disposed of properly. This is considered a significant impact. Mitigation Measure HM-3 will reduce the potential impact to a level less than significant.

#### **Affordable Housing Site**

The agricultural activity on the affordable housing site may have occurred when organochlorine pesticides were widely used; however, subsequent soil sampling identified no concentration of pesticides. Lead and arsenic concentrations were detected, but the concentrations are within normal background ranges in California soils. Therefore, no impact is identified.

There is a potential for methane generation on the project site due to horses and many years of decomposition of horse manure. However, methane gas sampling was conducted and eleven out of the twelve methane gas samples had no detected concentrations above the laboratory detection limit. One sample had a methane concentration of 26 ppmv but falls below the lower explosive limit of methane gas. Therefore, no significant impact would occur.

Soil samples were collected from the stockpile of fill materials to assess the potential impact of constituents of concern (CoCs). Metal concentrations in the stockpiles either fall within the range of normal background concentrations for metals found in California soils or contain low concentrations which do not warrant further assessment. Therefore, no significant impact would occur.

### **B. Transport, Use, or Disposal of Hazardous Materials and Potential Accidents**

The proposed project would involve the development of a 309-unit Continuing Care Retirement Community and up to 29 affordable housing units. Operation of the CCRC would involve the routine use and storage of hazardous materials and hazardous waste, including medical waste. However, the project will not result in a significant hazard to the public or environment because all storage, handling, transport, emission and disposal of hazardous substances will be in full compliance with local, State, and Federal regulations.

#### **Carlsbad Unified School District (CUSD) Proposed High School**

The CUSD is proposing the development of a high school on District-owned land located approximately 0.12 miles immediately north of the CCRC site, at the northwest corner of Cannon Road and College Boulevard. Operation of the CCRC site would involve the routine use and transport of hazardous materials and hazardous waste, including medical waste. However, the project will not result in a significant hazard to the proposed school because all storage, handling, transport, and emission and disposal of hazardous substances will be in full compliance with local, State, and Federal regulations. Furthermore, these materials would not be used in quantities such that they would pose an environmental risk.

### 5.10.3.2 *McClellan-Palomar Airport*

As discussed above, the project site is not located within a Runway Protection Zone or approach/departure zone associated with the McClellan-Palomar Airport. Additionally, the proposed land uses are allowed within Zone 6 as identified in the amended March 2010 ALUCP (see Section 5.1 Land Use). No impact associated with potential hazards from McClellan-Palomar Airport is anticipated.

### 5.10.3.3 *Emergency Plans*

The project would add residents with the development of structures for the CCRC and affordable housing units. The project is located in proximity to El Camino Real, which is designated as an emergency access or emergency evacuation route. Two signalized driveways located off of the future extension of College Boulevard Reach "A" will provide primary access to the CCRC project site. In addition, an emergency access driveway, which connects to Rancho Carlsbad Estates, is proposed adjacent to the southern perimeter of the RV storage/garden area. This would provide sufficient access for the CCRC site, as well as improved access for the Rancho Carlsbad Estates, for emergency evacuation onto College Boulevard if necessary.

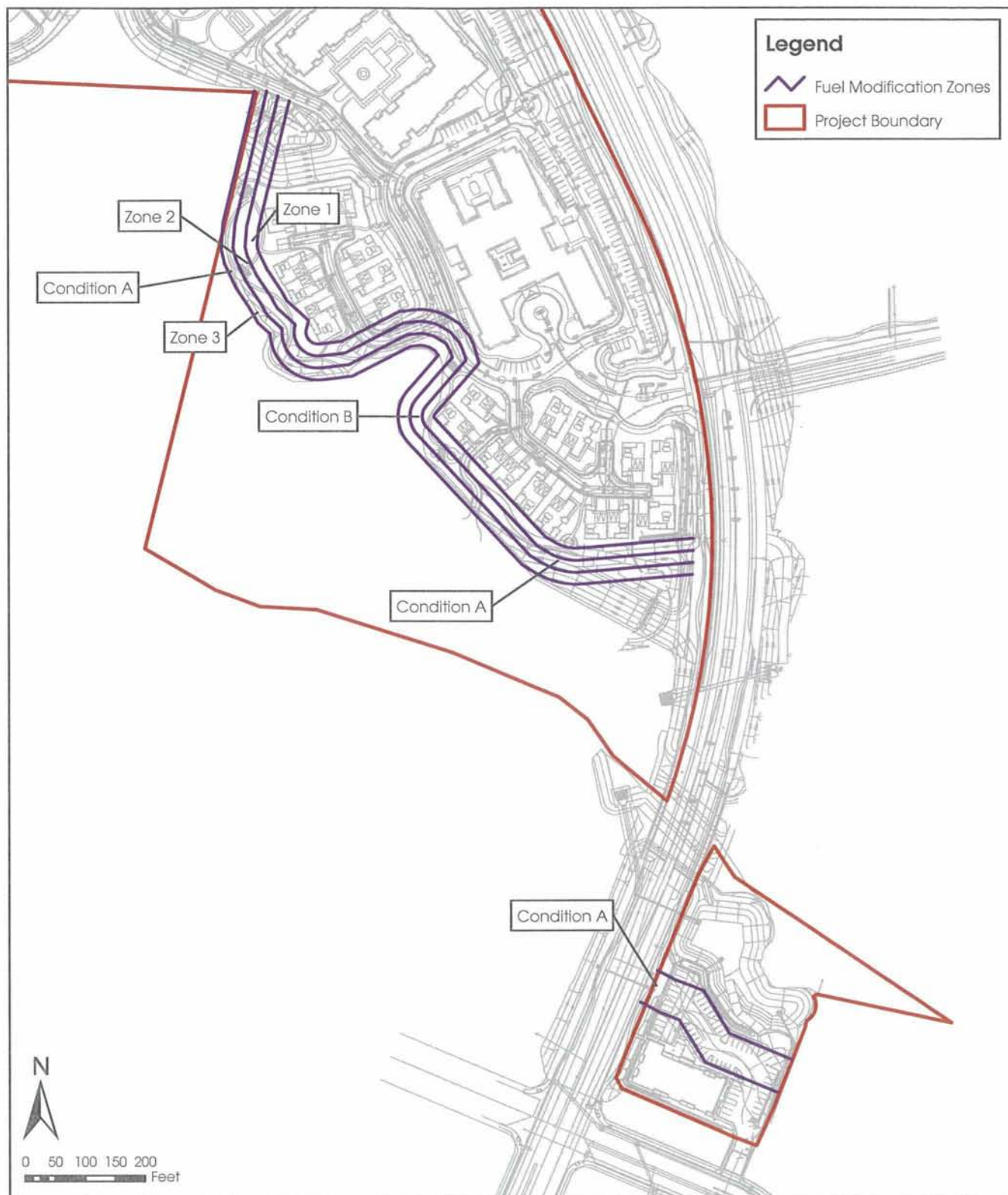
Access to the affordable housing project is proposed to be taken from a private driveway located off of Sunny Creek Road. Sufficient access from the affordable housing site to adjacent streets would allow sufficient traffic circulation for evacuation. The proposed project will not impact the operation and movement of traffic along any of the primary evacuation routes.

The City of Carlsbad Fire Department would provide all basic fire and emergency medical services to the project site. Specifically, the project would be served by Fire Station No. 3, located at 3701 Catalina Drive, and Station No. 5, located at the Public Safety Center on Faraday Avenue east of El Camino Real. The project site is within the five-minute response time for these fire stations. Additionally, the Fire Department has agreements with other agencies, such as the County of San Diego, to provide additional services including hazardous materials incident response. In the event of a large incident, the City of Carlsbad will activate their Emergency Operations Center (EOC) and provide details to residents and businesses (i.e., evacuation shelter locations), and the status of the incident on their "Current Incident" web page. The project would therefore not impact the ability to provide emergency services to the project site.

### 5.10.3.4 *Fire Hazard*

In accordance with the City of Carlsbad Landscape Manual and fire department requirements, a Fire Fuel Modification Zone will be implemented adjacent to proposed open space edges of the project. The City Landscape Manual, Section VI. F, requires that the Fire Fuel Modification Zone consist of a minimum 60-foot structural setback for manufactured and native slopes from adjacent open space. The Fire Fuel Modification Zone will be implemented in several configurations as specified in the City Landscape Manual, based on whether the residential development area abuts manufactured slopes with native vegetation or natural slopes with native vegetation. Figure 5.10-3 depicts the locations of the proposed fuel modification zones for the project.





SOURCE: Hunsaker & Associates, 2010; BRG Consulting, Inc., 2010

6/29/10



Dos Colinas EIR

## Proposed Location of Fuel Modification Zones

FIGURE  
5.10-3

F:\projects\970 Dos Colinas\2nd Screencheck EIR\Chapter 5\Section 10\Figure 5.10-3 Proposed Location of Fuel Mod Zone.mxd

**CCRC Site**

The Fire Fuel Modification Zones for the Continuing Care Retirement Community Site are "Condition A"- Manufactured Slopes and "Condition B"- Native Slopes. Figure 5.10-4 depicts a cross-section of Condition A and Figure 5.10-5 depicts a cross-section of the Condition B fuel modification conditions.

Under Condition A, the fire modification zone is divided into 3 sections (A-1, A-2, A-3) with 20-foot setbacks. Section A-1 shall be planted with ground cover or low growing shrub species (less than 3' in height) known to have fire retardant qualities, but no trees or shrubs are allowed. Section A-2 shall be planted with low water use naturalizing plant species with low fuel characteristics, but no trees are allowed. Condition A requires low fuel native vegetation to be planted within Section A-2. The last section, A-3, calls for low water use naturalizing plant species with low fuel characteristics. Trees are allowed but shall not be planted closer than 20' apart (City of Carlsbad, 1990).

Under Condition B, the fire modification zone is divided into 3 sections (B-1, B-2, B-3), each with 20-foot setbacks. Section B-1 requires the removal of high fuel and moderate hazard species and the planting with ground cover or low growing shrub species (less than 3' in height) known to have fire retardant qualities. No trees or shrubs are allowed. Section B-2 requires the removal of 100% of high fuel species and 60% of the volume of moderate fuel species by selective pruning. This section allows replanting with naturalizing low fuel species. Section B-3 requires the removal of 100% of high fuel species and up to 40% of the volume of moderate fuel species by selective pruning. Trees and large tree form shrubs that will be retained shall be pruned to provide clearance equal to three times the height of understory plant material (City of Carlsbad, 1990).

**Affordable Housing Site**

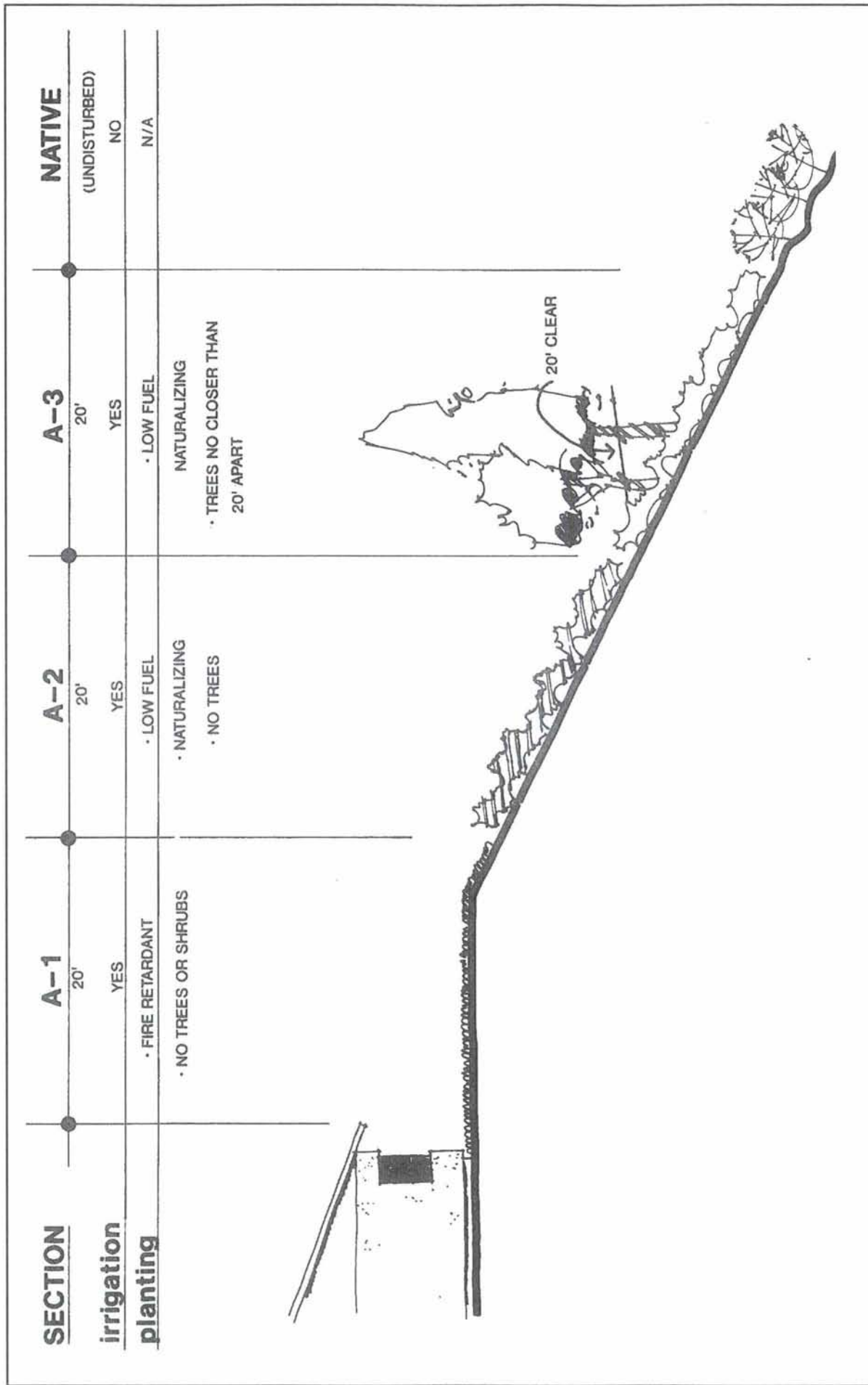
The Fire Fuel Modification Zone for the affordable housing site is identified as "Condition A"- Manufactured Slopes. As discussed above, the zone is divided into three sections. Section A-1 shall be planted with ground cover or low growing shrub species (less than 3' in height) known to have fire retardant qualities, but no trees or shrubs are allowed. Section A-2 shall be planted with low water use naturalizing plant species with low fuel characteristics, but no trees are allowed. Condition A requires low fuel native vegetation to be planted within Section A-2. The last section, A-3, calls for low water use naturalizing plant species with low fuel characteristics. Trees are allowed but shall not be planted closer than 20' apart (City of Carlsbad, 1990).

Adherence to the fuel modification zones would ensure the potential fire hazard remains at a less than significant level.

## 5.10.4 Mitigation Measures

**HM-1** Horse manure encountered onsite shall be stockpiled, disposed of offsite, and handled separately. Implementation of this measure shall be verified by the City of Carlsbad Planning and Building Departments.





SOURCE: City of Carlsbad, 1990



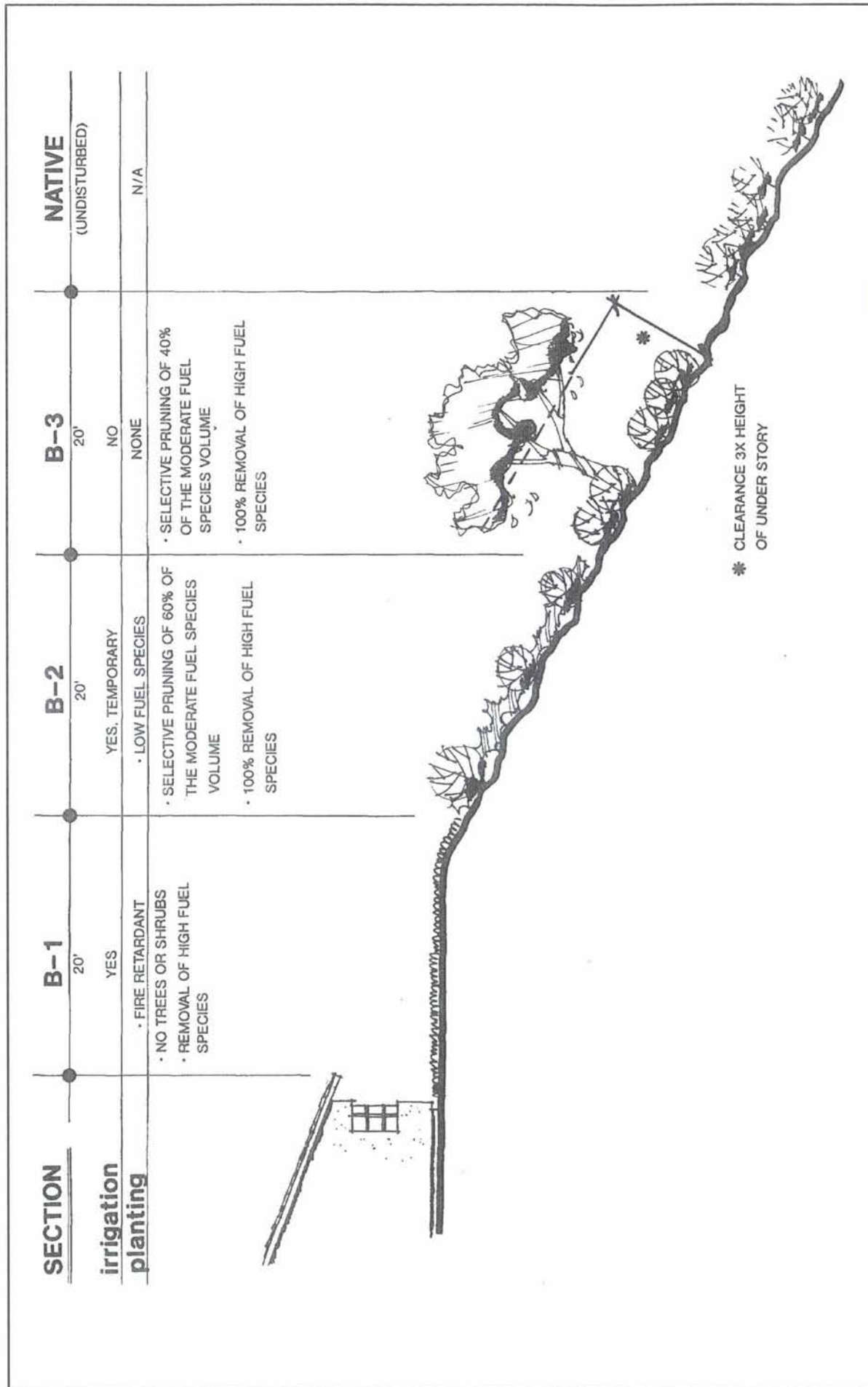
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Fuel Modification Zone

Cross Sections - Condition "A" Manufactured Slopes

FIGURE

5.10-4



SOURCE: City of Carlsbad, 1990



Dos Colinas EIR

# Fuel Modification Zone Cross Sections - Condition "B" Native Slopes

FIGURE

5.10-5

4/29/10

- HM-2** Prior to demolition of the vacant home located on APN 209-060-71 (i.e. "southern parcel" on CCRC site), an asbestos and lead-based paint survey shall be performed and, if applicable, a mitigation report prepared and implemented. The mitigation report shall identify appropriate clean-up and disposal requirements necessary to avoid impacts related to asbestos and lead-based paint. Prior to issuance of building permits, implementation of any required measures shall be verified by the City of Carlsbad Planning and Building Departments.
- HM-3** If a septic system is encountered, the local oversight agency shall be notified and the septic system shall be abandoned properly.

### 5.10.5 Impact After Mitigation

Implementation of Mitigation Measures HM-1 through HM-3, will reduce the potential impact related to hazardous materials and hazards to a level less than significant.

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